

What is claimed is:

1. A rack for use in a compound handling system for handling a multiplicity of tubes containing aliquots of chemical or biological samples, which comprises:

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a single piece frame, said frame having a top side and a bottom side; storage compartments within said frame that are each configured and dimensioned to receive a sample tube containing a chemical or biological sample, each of said storage compartments having an inner wall and being open at the top side of the frame and open at the bottom side of the frame so that a sample tube is insertable within the inner wall of the storage compartment and into the storage compartment from either the top side of the frame or the bottom side of the frame and is removable from the storage compartment from either the top side of the frame or the bottom side of the frame, and

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means for retaining a sample tube within each of said storage compartments, said retaining means being an integral part of said frame, said retaining means being a part of the inner wall of each storage compartment, that part of said inner wall being configured and dimensioned to cooperate with a part of the outer wall of a sample tube in order to retain the sample tube at a predetermined position within said compartment.

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2. A rack according to claim 1, wherein each of said compartments is configured and dimensioned to contain an entire sample tube.

25 3. A rack according to claim 1, wherein each of said storage compartments is rectangular.

4. A rack according to claim 1, wherein said means for retaining a sample tube comprise a projection of the inner wall of each storage compartment that is

configured and dimensioned so as to bias against a sample tube that has been positioned within the storage compartment.

5. A rack according to claim 4, wherein said projection is configured and
5 dimensioned so as to snap in between two ridges of the outer wall of a sample tube.